

ZELEZNIKAR, Anton, inz.

Logic pf predicates, and digital circuits. Automatika 4 no.1:  
18-24 '63.

1. Nuklearni institut "Jozef Stefan", Ljubljana.

ZELEZNIKAR, Anton, inz.

A new definition of algorism, and its applicability. Automatika  
4 no.2:92-99 '63.

I. Nuklearni institut "Jozef Stefan," Ljubljana.

KOLBEZEN, Peter, inz.; KORENINI, Janez, inz.; ZELEZNIKAR, Anton, inz.

An apparatus for automatic measurement of neutron flux  
distribution in a reactor. *Automatika* 4 no.2:102-108 '63.

1. Nuklearni institut "Jozef Stefan", Ljubljana.

ZELEZNIKAR, Anton, dipl. inz.; CATAR, Ladislav, inz.

Solving the problems of linear programming with the aid  
of simplex method and digital computer. Automatika 4 no.  
5/6 328-334 '63.

1. Nuklearni institut "Jozef Stefan", Ljubljana.

ZELEZNIKAR, Anton, inz.

Synthesis of automatic digital computers with algebraic  
solution of logical equations. Automatika 4 no.3:174-180 '63.

1. Nuklearni institut "Jozef Stefan", Ljubljana.

PONEBSEK, B.; CATAR, L.; ZELEZNIKAR, A.

New books and reviews. *Automatika* 4 no.4:281 '63.

ZELEZNIKAR, Anton P. (Ljubljana)

Some algorithm theory and its applicability. Glas mat fiz Hrv  
18 no. 3:141-158 '63. (MIRA 17:5)

1. The Jozef Stefan Nuclear Institute, Ljubljana.

ZELEZNIKOVA, J.

"Experiments on the vegetative hybridization of Salmonells, Brucella, and Bacillus anthracis."

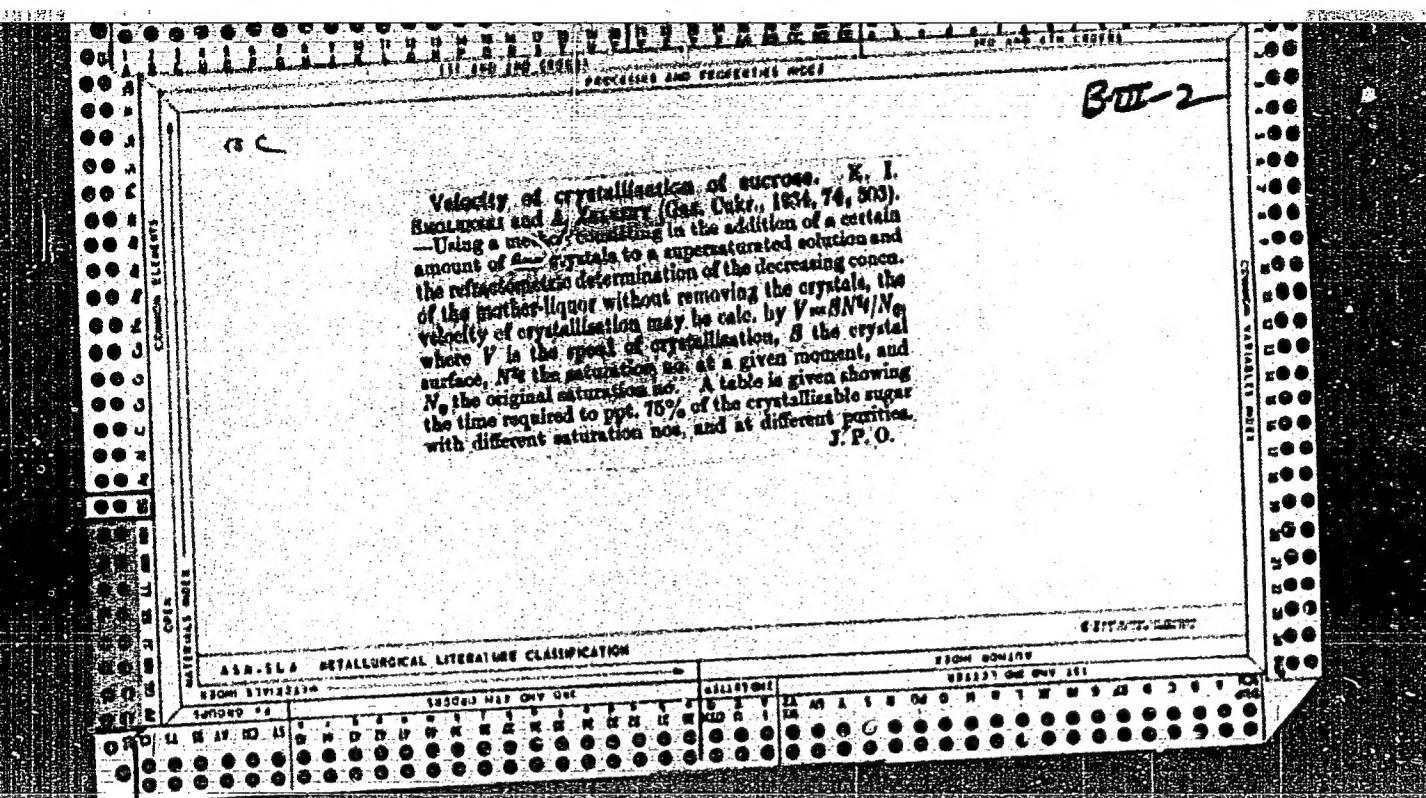
VESTNIK. Praha, Czechoslovakia, Vol. 5, No. 7/8, 1958.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September 1959.

Unclassified.

NYURENBERG, G.Ya.; ZHELEZNOV, V.A.; KRAVTSOV, I.M.

Application of mathematical statistics in assessing operational  
parameters of aluminum electrolytic cells. TSvet. met. 38 no.5:  
53-56 My '65. (MIRA 18:6)



ZELEZNY, A.

"Economic Analysis and Evaluation in the Construction of Machinery." p. 299  
(Strojirenstvi, Vol. 3, no. 4, Apr. 1953, Praha)

SO: Monthly List of East European Accessions, Vol. 3, No. 3, March <sup>1954</sup>~~1953~~, Uncl.

ZELEZNY, A.

Where does the fault lie? p. 104.

ZELEZNICE. Vol. 4, no. 4, Apr. 1954. Prague

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 5, No. 6, June 1956 Uncl.

ZELEZNY, A.

Shall we have ballast cleaners of our own production? p. 65. (Zeleznice, Praha,  
Vol. 4, No. 3, Mar. 1954)

SO: Monthly list of East European Accessions (EEAL), LC Vol 4, No. 6, June 1955, Uncl

BA

BT-1B

*Post-injection pumps. A. Zeleny (B.P. 600,862, 11.3.47. Czechoslovak., (A) 11., (B) 23.3., (C) 23.4.46). — (A) A spring-loaded check valve inserted in front of the injection nozzle, has a flat seat covering oil inlets through a plate. The valve spindle carries a piston operating in a cylinder formed in the valve casing, preventing discharge during a predetermined movement of the valve. (B) A spring-loaded hollow-bodied section valve is located above a pump piston, seating on the opposite side of the separating plate to, and co-axially with, the delivery valve described in (A). (C) A pump piston operates in a cylinder having a co-axial inlet port and spill passageway, the piston crown being higher on the spill passage side of the cylinder than on the inlet-port side. D. M. Elliott.*

ZELEZNY, A.

"Creative Application of Soviet Methods in Machine Design. p. 818.  
(STROJIRENSTVI. Vol. 4, No. 11, Nov. 1954; Praha, Czech.)

So: Monthly List of East European Accessions, (EEAL), IC, Vol. 4, No. 4,  
April 1955, Uncl..

ZELEZNY, R.

**Fuel-injection pumps.** A Zelezny (U.S. 2,600,502, 11.3.47. Czechoslovakia). (A) 11. (B) 23.3. (C) 25.4.46. (A) A spring-loaded check valve inserted in front of the injection nozzle, has a flat seat covering oil inlets through a plate. The valve spindle carries a piston operating in a cylinder formed in the valve casing, preventing discharge during a predetermined movement of the valve. (B) A spring-loaded hollow-bodied suction valve is located above a pump piston, seating on the opposite side of the separating plate to, and co-axially with, the delivery valve described in (A). (C) A pump piston operates in a cylinder having a co-axial inlet port and spill passageway, the piston crown being higher on the spill-passageway side of the cylinder than on the inlet-port side. D. M. Elliott.

ZELEZNY, A.

Importance of the construction engineer's work for the technical development of production. p.35 (Nova Technika, Vol.1, no.2, Feb. 1956) Praha

SO: Monthly list of East European Accession (EEAL) LC, Vol.6, no.7, July 1957. Uncl.

~~ZELEZNY, A~~

250 years of Czech technical schools.

p. 105 (Automobil) Vol. 1, no. 4, Apr. 1957 Praha, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, Jan. 1958

ZELEZNY, J.

"Automatic control for boring machines, which are punch-tape operated, with coordinate setting."

p. 175 (Automatisace, no. 6, June 1958, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, no. 9,  
September 1958

~~SECRET~~  
ZELEZNYAK, I., inzh.; YEZERSKIY, A., inzh.; OBLOV, V., inzh.

Plastic facing tiles. Gor. 1 sel'. stroi. no.11:18-19 N '57.  
(Tile construction) (Plastics) (MIRA 11:1)

ZELEZNYAKOV, V.V.

Instability of a magnetoactive plasma relative to high-frequency  
electromagnetic perturbations. Part 4. Izv.vys.ucheb.zav.;  
radiofiz. 4 no.5:849-860 '61. (MIRA 14:10)

1. Nauchno-issledovatel'skiy radiofizicheskiy institut pri  
Gor'kovskom universitete.

(Plasma (Ionized gases)) (Electromagnetic waves)

LELEZNYAKOV, V.V.

"Theory of Sporadic Radio Emission of the Sun," by B. N. Gershman and V. V. Zheleznyakov, pp 273-311, (Abstract No 494)

Experimental data indicate the existence of several types of radio emission: emission of the "tranquil" sun (type I), emission connected with solar spots (type II), short "isolated" surges with no connection to solar activity (type III), and surges connected to chromospheric flares (type IV). Possible mechanisms of emission of the disturbed sun are discussed. The emission of relativistic electrons speeding along magnetic force lines may explain emissions of type II: circular polarization and relatively high intensity with rather low electron density. The problem of the acceleration mechanism in the vicinity of spots is still open. The explanation of other types of sporadic emission is attempted by assuming a plasma mechanism. I. S. Shklovskiy emphasized that the observation results prove the impossibility of explaining all radio emissions by one mechanism. V. L. Ginzburg pointed out the difference of relativistic electron emission in the case of the sun and the Galaxy. In the case of the Galaxy, the angle between the electron velocity and the magnetic field is large; in the case of the sun the angle is small. (U)

231176  
Meteorology - Water-Discharge

Curve

Sep 52

"Device for Construction of Curve of Elementary Discharge," L. G. Zel'ger, Leningrad Branch, State Oceanographic Inst

"Meteorol i Gidrol" No 9, pp 51-54

Author improves a device invented in 1938 by E. Lasocki, Warsaw (Baltische Hydrologische Konferenz, Bericht 18c, Berlin 1938) and describes it in detail. He states it deserves to find the ordinate  $q$  from the eq  $q = \dots h$  (where

$q$  is the av velocity of water flow and  $h$ , the depth of water) without lengthy computation.

231176

231176

ACCESSION NR: AT4037683

8/2865/64/003/000/0125/0129

AUTHOR: Zelfel'd, V. V.

TITLE: Objects and spatial environment in cabins of spaceships

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy\* kosmicheskoy biologii, v. 3, 1964, 125-129

TOPIC TAGS: manned space flight, cabin environment, psychology

ABSTRACT: It is suggested that a spaceship cabin should contain objects and surroundings which make a cosmonaut feel at home. Familiar objects and familiar surroundings should help to counteract the monotonous flight rhythm and the sharp decrease in stimuli and impressions in prolonged space flight. Since it is impossible to reproduce completely an earth-type environment in the cabin of a spaceship, the author suggests a number of means for achieving the effect of a familiar environment. Specifically, he suggests that the spaceship environment simulate seasons of the year and the time of the day. Such effects could be achieved through illumination and by careful selection of colors. Purely technical aspects of the spaceships such as required equipment could be balanced by the presence of psychologically reassuring everyday objects which will remind

Card 1/2

ACCESSION NR: AT4037683

the cosmonaut of his life on earth. The spaceship cabin could be designed so as to present familiar architectural details. Not all surfaces should be equally lighted. A proper balance of shadows is considered desirable. The number of familiar objects surrounding the cosmonaut should be carefully calculated to avoid either a cluttered effect or a bare, sterile effect. The familiar objects should be of various sizes, since the presence of many objects of approximately identical size can also be psychologically fatiguing. A balance between small and large objects should be maintained. Surfaces should differ from each other in texture as well as in color. The author suggests that such objects as tanks for growing green algae should be visible to the cosmonaut. Graphic art and reproductions of paintings also have a place in the scheme. Finally, trivial objects which remind the cosmonaut of his environment on earth should be selected on an individual basis for each cosmonaut.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: PH, LS

NO REF SOV: 000

OTHER: 000

2/2

GAVRILOV, O., champion i rekordsmen, master sporta; ZEL'GER, V., master sporta

Necessary additions. Za rul. 21 no.4:18-19 Ap '63. (MIRA 16:5)  
(Motorboat engines)

1ST AND 2ND ORDERS		3RD AND 4TH ORDERS	
PROCESS AND PROPERTIES INDEX			
<p><i>Ca</i></p>		<p>7</p>	
<p>Rapid method for determining the activity of aluminum silicate and alumina cements from blast-furnace slag. K. A. Smirnova and V. T. Zeligmeister. <i>Zavodskaya Lab.</i> 9, 1232-3 (1940).--Mix for 5 min. without heating 40 ml. of 15% soda soln. previously heated to 80° with 10 g. of the cement which had passed through a sieve of 61 openings per sq. cm. Filter and det. the Al as follows: To 5 ml. of the filtrate add 10-15 ml. water and 6-8 drops of tropeolin (0.1% soln. in water), titrate with N HCl to dissolve the ppt., heat to 40-50°, dil. with water to the level of a previously prepd. standard soln. and titrate to the same color as the standard. Heat the titrated soln. to boiling, add a few drops of phenolphthalein and titrate with N NaOH. To prep. the standard soln. add 6-8 drops of tropeolin and 0.2 ml. of N HCl to 100 ml. water. The content of <math>Al_2O_3</math> in g./l. is equal to <math>(N - 0.2) 3.4</math> where <math>N</math> is the ml. of NaOH used in titration. Rpts. have shown that the av. value of the conversion factor from <math>Al_2O_3</math> concn. to the mech. strength is 7.05. Hence the compressive strength <math>R_c = (N - 0.2) 26</math>. N. Z. Kamich</p>			
<p>438.354 METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>FROM STATION</p>		<p>FROM COUNTY</p>	
<p>140000 74</p>		<p>001001 ONE ONE ONE</p>	
<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>		<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>	

ZEL'GEYM, G.A., kand.tekhn.nauk

Water diversion works with suction wells. Energ. stroi. za rub.  
no.2:50 '59. (MIRA 14:2)

(France--Hydraulic engineering)  
(Morocco--Hydraulic engineering)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964310004-3

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964310004-3"

ZELIAKH, E.V.

ATABEKOV, G.I., professor, doktor tekhnicheskikh nauk.

Review of E.V.Zeliakh's book "Principles of the general theory of linear electric circuits." Reviewed by G.I.Atabekov. Avtom. i telem. 15 no.3:275-276 My-Je '54.

(MLRA 7:11)

(Electric circuits) (Zeliakh, E.V.)

111 AND 119 ORDERS										120 AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
BC		<p>1974. Polarographic determination of cobalt in presence of nickel. Catalytic evolution of hydrogen from the cobalt-dimethylglyoxime complex. A. G. Stromberg and A. I. Zelenkaya (<i>J. Gen. Chem. Russ.</i>, 1944, 18, 203-218).—Co may be determined polarographically in presence of Ni. For Co ores, concentrates, and residues which contain much Fe, Ni, and a little Cu compared with Co, the Cu is pptd. on a Fe strip and removed, Fe is oxidized with HNO<sub>3</sub> and pptd. by (NH<sub>4</sub>)<sub>2</sub>CO<sub>3</sub> from the solution neutralized with H<sub>2</sub>SO<sub>4</sub>, and pptd. by (NH<sub>4</sub>)<sub>2</sub>CO<sub>3</sub>. Na<sub>2</sub>SO<sub>4</sub>, dimethylglyoxime (D), and gelatin is added to ppt. Ni as an insol. complex with (D) while Co remains in solution and is determined polarographically. Ni in amounts &gt; 10 times the amount of Co does not interfere. Zn has a bad effect, obscuring the Co wave. The method gives good results compared with those obtained by chemical analyses of the ores etc.</p>																	
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION																			
FROM SYNDICATE										FROM SOCIETY									
REPORT NO.										RELATIONS									
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20										21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40									

ZELIANSKAJA, A. I.

I. G. NISS, Zhur Prik Khim, 1941, 14, 46-62

ZELEVINSKAYA, S.A.; BULATOVA, T.I.; LARINA, I.A.

Study of the immunological effectiveness of complex immunization against gas gangrene, tetanus and botulism in experiments on monkeys. Biul.eksp.biol.i med. 53 no.6:59-62 Je '62.

(MIRA 15:10)

1. Iz otdela ranevykh infektsiy (zav. - dyestvitel'nyy chlen AMN SSSR G.V.Vygodchikov) Instituta epidemiologii i mikrobiologii imeni N.F.Gamalei (dir. - prof. O.V.Baroyan) AMN SSSR, Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR G.V.Vygodchikovym.  
(VACCINATION) (GAS GANGRENE) (TETANUS) (BOTULISM)

ZELEVINSKIY, G.S., inzh.; NEKRASOV, A.M., inzh.

Problems concerning the future development of thermal electric power  
plants and electric networks. Elek.sta. 32 no.4:2-9 Ap '61.

(Electric power plants) (Electric power distribution) (MIRA 14:7)

3/056/62/042/006/026/047  
B104/B108

AUTHORS: Belyayev, S. T., Zelevinskiy, V. G.

TITLE: "Anharmonic effects" of quadrupole oscillations of spherical nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 6, 1962, 1590 - 1603

TEXT: Deviations from the harmonic fundamental oscillations are studied in the scope of the microscopic theory of collective excitations of spherical even-even nuclei. The number of independent phenomenological constants for describing the anharmonic corrections of quadrupole oscillations of spherical nuclei can be reduced considerably. In adiabatic approximation, the perturbation  $H^{(1)}$ , i. e. the term of the Hamiltonian containing three phonon operators, is determined by only one constant.

$H^{(2)}$  contains only three constants which can be approximated asymptotically by one constant. All constants can be calculated for real nuclei. The probability of electromagnetic E2 transitions is much more sensitive to

Card 1/2

"Anharmonic effects" ...

S/056/62/042/006/026/047  
B104/B108

the form of the anharmonic corrections than the energy of the nuclear levels.

SUBMITTED: December 31, 1961

Card 2/2

1 11789-66 EWT(m) DIAAP

ACCESSION NR: AP5020253

UR/0367/65/002/001/0051/0058

AUTHOR: Belyayev, S. T.; Zelevinskiy, V. G.

TITLE: Green's functions and transition probabilities in odd nuclei

41B  
19,55

SOURCE: Yadernaya fizika, v. 2, no. 1, 1965, 51-58

TOPIC TAGS: Green function, transition probability, fermion, phonon, ground state

ABSTRACT: Expressions are obtained for various Green's functions of odd nuclei. These expressions make it possible to calculate the nuclear characteristics for states having either a single-particle or a collective nature. The method consists in going over from averaging over the ground state of the odd nucleus to averaging over the neighboring nucleus. This makes it possible to eliminate the uncertainty connected with degeneracy in the ground state. Explicit equations are derived for the single-fermion, phonon, and two-particle Green's functions. Transition probabilities and mean values of the physical quantities are also derived for arbitrary low-lying states in odd nuclei. Orig. art. has: 34 formulas.

ASSOCIATION: None

Card 1/2

L 11789-66

ACCESSION NR: AP5020253

SUBMITTED: 22Feb65

ENC: 00

SUB CODE: 20

NR REF SOV: 005

OTHER: 000

HW.  
Card 2/2

BEKYAYEV, S.T.; ZELEVINSKIY, V.G.

The method of Green's functions in a simple nuclear model.  
Iad. fiz. 2 no.4:615-634 0 '65. (MIRA 18:11)

ZELEVSKIY, R.O.; MIKHEYKIN, V.Ya.

Some problems in the analysis of morbidity requiring ambulatory  
urological aid. Urologiia 27 no.4:41-44 J1-Ag '62.

(MIRA 15:11)

1. Iz polikliniki No.31 I Leningradskogo meditsinskogo instituta  
imeni I.P. Pavlova (nauchnyy rukovoditel' - prof. A.M. Gasparyan).  
(UROLOGY)

ZELICHA, J

Resinification work in April. p.40

IAS POLSKI. (Ministerstwo Leśnictwa oraz Stowarzyszenie Naukowo-Techniczne  
Inżynierów i Techników Leśnictwa i Drzewnictwa) Warszawa, Poland  
Vol.29, no.3, Mar. 1955

Monthly list of East European Accessions (EEAI) LC, Vol.9, no.2, Feb. 1960

Uncl.

ZELICHENKO, A.

Apparatus for winding "Universal" coils. Radio no. 8:54-57  
(MIRA 7:8)

Ag '54.

(Electric coils)

ZELICHENKO, A.S., inzh.; SARYCHEV, B.M., inzh.

Determining calculated minimum permissible diameters of  
parts of intermediate wooden supports for 35 and 110 kv  
electric transmission lines during operation. Elek.sta. 31  
no.2:67-71 F '60. (MIRA 13:5)  
(Electric lines--Poles)

SARYCHEV, B.M., inzh.; ZELICHENKO, A.S., inzh.

Determination of the permissible distance of electric power  
transmission lines from structures and tree tops. Elek. sta.  
31 no.9:68-71 S '60. (MIRA 14:10)  
(Electric power distribution)  
(~~Electric lines - Overhead~~)

BRONSHETYN, S., inzh.; ZELICHENKO, A., inzh.

Expand the use of sheet-bending machines. Rech. transp. 20  
no. 1:49-50 Ja '61. (MIRA 14:2)

(Sheet-metal work)

ZELICHENKO, A.S., inzh.; SARYCHEV, B.M.

Determination of the design parameters and the minimum permissible diameters of the components of wooden anchor tower corner-pole supports on 35 and 110 kv. electric power transmission lines.  
Elek.sta. 32 no.6:59-64 Jo '61. (MIRA 14:8)  
(Electric lines--Poles)

ZELICHENKO, A.

Loudspeaker built by amateurs based on the DEMSh-1 capsule. V pcm.  
radioliub. no.1247-54 '62. (MIRA 16:10)

ZELICHENKO, A., inzh.

Universal two-position lapping machine for the reseating of valves.  
Rech. transp. 22 no.7:45-46 JI '63. (MIRA 16:9)  
(Grinding machines) (Valves)

KESEL'MAN, L.M., inzh.; ZELICHENKO, A.S., inzh.

Weight and wind spans between towers in mountainous areas. Elek.  
sta. 36 no.11:68-71 N '65. (MIRA 18:10)

DELICHENKO, A. YA.

Sheet Metal Work

Mechanising the bending of steel sheets. Rech. transp. 12 No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952. UNCLASSIFIED.

ZELICHENKO, A. YA. (Engineer)

Electric Welding

Spot welding with hand-operated semi-automatic apparatus. Rech. transp. 12,  
No. 3, 1952

Monthly List of Russian Accessions, Library of Congress, August, 1952. Unclassified.

BRONSHTEYN, Sergey Isaakovich; ZELICHENKO, Abram Yakovlevich; GOLOVANOV, N.V.,  
redaktor; VOLCHOK, K.M., tekhnicheskii redaktor.

[Bending sheet steel on machines of the LGS type] Gibka listovoi  
stali na stankakh tipa LGS. Leningrad, Izd-vo "Rechnoi transport",  
Leningradskoe otd-nie, 1956. 51 p. (MIRA 9:6)  
(Sheet-metal work)

~~BRONSHTEYN, S.I.; ZELICHENKO, A.Ya.~~  
BRONSHTEYN, S.I.; ZELICHENKO, A.Ya.

Production of corrugated sheets on LGS machine tools. Rech.transp.  
16 no.12:33-35 D '57. (MIRA 11:1)  
(Sheet-metal work)

BRONSHTEYN, Sergey Isakovich; ZELICHENKO, Abram Yakovlevich; MELEYEV,  
A.S., red.; LAVRENOVA, N.B., tekhn.red.

[Mechanization of work on piping in ship repairing] Mekha-  
nizatsiia truboprovodnykh rabot v sudoremonte. Moskva, Izd-vo  
"Morskoi transport," 1958. 156 p. (MIRA 12:6)  
(Marine pipe fitting)

BRONSHTEYN, S.I., inzh.; ZELICHENKO, A.Ya., inzh.

Pipe-bending machine using high-frequency currents for heating.  
Rech. transp. 17 no.12:20-23 D '58. (MIRA 12:1)  
(Bending machines) (Pipe bending)

ZELICHENKO, A.Ya., inzh.

Unit used for semiautomatic welding of pipe flanges. Rech.  
transp. 18 no.1:48-49 Ja '59. (MIRA 12:2)  
(Marine pipe fitting) (Pipe flanges--Welding)

ZELICHENKO, A.Ya., inzh.

Manufacture of welded screw propellers. Sudostroenie 25 no.1:  
58-60 N '59. (MIRA 13:4)  
(Propellers)

ZELICHENKO, A.Ya., inzh.

Model IGS-3 sheet-bending machine. Sudostroenie 25 no.7:44-46  
Jl '59. (MIRA 12:12)  
(Plates, Iron and steel) (Metalworking machinery)

BRONSHTEYN, S.I., inzh., ZELICHENKO, A.Ya. inzh,

Machine tool for grinding ship fittings. Sudostroenie no.7:61-64  
J1 '60. (MIRA 13:7)

(Shipfitting--Equipment and supplies)

ERONSHTEYN, S.I., inzh.; ZELICHENKO, A.Ya., inzh.

Movable pipe-bending machine. Sudostroenie 26 no. 11:62-63  
N '60. (MIRA 14:1)  
(Marine pipe fitting)

ANDRIYEVSKIY, Valeriy Nikolayevich; GOLOVANOV, Aleksandr Trofimovich;  
ZELICHENKO, Abram Simkhovich; KARSAULIDZE, A.N., red.;  
LARTONOV, G.Ye., tekhn. red.

[Operation of overhead power transmission lines] Eksplua-  
tatsiia vozdukhnykh liniy elektroperedachi. Moskva, Gos-  
energizdat, 1963. 527 p. (MIRA 17:2)

BRONSHTEYN, S.I., inzh.; ZELICHENKO, A.Ya., inzh.

PK-2 press for die casting of polyamide parts. Sudostroenie  
29 no.9:51-54 S '63. (MIRA 16:11)

BRONSHTEYN, S.I., inzh.; ZELICHENKO, A.Ya., inzh.

New type of electromagnetic stands with flux padding for the  
welding of plating. Sudostroenie 29 no.6:54-56 Je '63.  
(MIRA 16:7)  
(Electric welding--Equipment and supplies)

BIRYUKOVICH, Konstantin L'vovich; BIRYUKOVICH, Yuriy L'vovich;  
BIRYUKOVICH, Dmitriy L'vovich; SINTSOV, G.M., inzh.,  
retsenzent; ZELICHENKO, A.Ya., nauchn. red.; KAZAROV,  
Yu.S., red.

[Small glass reinforced concrete and mesh reinforced  
concrete vessels] Melkie suda iz steklotsementa i armo-  
tsementa. Leningrad, Sudostroenie, 1965. 163 p.  
(MIRA 18:7)

ACC NR: AR6022401

(N)

SOURCE CODE: UR/0398/66/000/003/V022/V022

AUTHOR: Zelichenko, A. Ya.

TITLE: All-purpose aggregate for replacing the hull plating of merchant ships

SOURCE: Ref. zh. Vodnyy transport, Abs. 3V166

REF SOURCE: Proizv. tekhn. sb. Tekhn. upr. M-va reohn. flota RSFSR, no. 1 (45), 1965, 53-56

TOPIC TAGS: shipbuilding engineering, winch, ship component, structural steel, test model, cargo ship

ABSTRACT: The Central Planning-Design Bureau of the Ministry for the River Fleet [TsTKB MRF] has developed a project for an all-purpose, mechanized, self-propelled, aggregate which makes it possible to replace hull plating in any section of a merchant ship hull, regardless of the hull lines involved. The aggregate is described. The largest size plate which can be replaced using the aggregate is 8x1600x6000 mm, the lowest position the platform can take with respect to the slip floor is 1550 mm, and the highest is 5000 mm, the lift capacity of the hand winches used as the lift drives for plate is 2 x 500 kg, for the drive for turning the platform it is 1000 kg, the electric motors for driving the frame lift and the carriage are rated at 2.8 kw, the force applied by the air cylinder drive for the plate clamp is 3 x 250 kg, the

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UDC: 629.12.002.011:629.12.011.74

ACC NR:AR6022401

overall dimensions of the aggregate with the platform lowered is 4500x2600x1550 mm, and its weight is 3000 kg. An experimental model has been manufactured by the Nevskiy Shipbuilding and Ship Repair Yard. The annual saving for one-shift operation and working at full capacity (preliminary) is 6300 rubles. The aggregate costs 6000 rubles. 3 figures. S. Korzh. [Translation of abstract]

SUB CODE: 13

Card 2/2

BARSUKOV, I.A., inzh.; ZELICHENKO, E.I., inzh.

Measurement of modulation potential of generators and converters.  
Vest. elektroprom. 34 no.5:61-63 My '63. (MIRA 16:5)  
(Modulation electronics) (Radio--Equipment and supplies)  
(Electric power supply to apparatus)

ZELICHENKO, E.

Protection of electric appliances from damages. Radio no.6:25  
Je '62. (MIRA 15:5)  
(Electric appliances) (Voltage regulators) (Rural electrification)

ZELICHENKO G.S.

117-58-5-24/24

AUTHOR: None Given

TITLE: Conference on Construction and Utilization of Casting Equipment (Konferentsiya po konstruirovaniyu i ekspluatatsii litoyного oborudovaniya)

PERIODICAL: Mashinostroitel', 1958, Nr 5, p 48 (USSR)

ABSTRACT: In December 1957, a scientific-research conference took place in Gor'kiy dealing with the construction and utilization of casting equipment. It was organized by the department of casting of the NTO MASHPROM. At the conference were 900 representatives from machine building plants, casting equipment plants, scientific research institutes, universities, etc. A total of 28 reports were given. I.F. Yegorenko, Candidate of Technical Sciences (NIILITMASH) reported on the actual state and development of the casting technique. P.N. Aksenov, Doctor of Technical Sciences (MAMI) reported on automated lines of sand-blowing moulding. L.M. Mariyebakh, Doctor of Technical Sciences (MVMI) reported on the subject "Mechanized Drying Kilns". G.S. Zelichenko, Engineer (Leningrad Branch of Soyuzprommekhanizatsii) reported on "Automatic Lines of Molding in Casting Shops". A.D. Ginzburg (LF VPTI tyazhmash) reported on a self-constructed automatic machine for the pro-

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117-58-5-24/24

Conference on Construction and Utilization of Casting Equipment

duction of shell moulds. V.N. Bobrov (NIILITMASH) talked about automatic machines for moulding. A.V. Odinkov, Engineer, reported on modern sand blasting devices. G.S. Taburinskiy, Engineer (NIITLITMASH) reported on "Automatic Machines for the Production of Shell Molds and Cores". Z.D. Levin (Plant KATEK) spoke on "Projects and Utilization of Equipment for Mechanized Casting". I.V. Yefimov, Engineer, spoke on "Mechanization and Automation of the Technological Process of Casting With Meltable Models". G.R. Nikol'skiy, Engineer (NIILITMASH) spoke on hydraulic and sand-hydraulic cleaning of castings. B.G. Shpital'nyy (NIILITMASH) talked about the automatic moulding machine Nr 96264.

AVAILABLE:  
Card 2/2

Library of Congress

1. Casting equipment-Development    2. Casting equipment-Application



ZELICHENKO, G.S.

28(1)/25(1) PHASE I BOOK EXPLANATION : DW/2031

Mechanizatsiya i avtomatizatsiya trudovoykh protsessov v liternom proizvodstve (Mechanization and Automation of Labor-consuming Processes in Foundry Practice) Moscow: Mashgis, 1959. 226 p. Errata slip inserted. 4,000 copies printed.

Reviewers: K. R. Stebnikov, Candidate of Technical Sciences; Ed. (title page) G. I. Koblynskiy (Deceased); Ed. (Inside Book) O. V. Sokolov, Candidate of Technical Sciences; Tech. Book) O. V. Sevanskiy, Managing Ed. for Literature on the Technology of Machinery Manufacture (Integrat Division, Mashgis); Ye. P. Meuser, Engineer.

PURPOSE: The book is intended for technical personnel in foundries and engineers engaged in the mechanization and automation of industrial processes. It may also be used by students of institutions of higher technical education.

CONTENTS: The book deals with recent achievements in the mechanization and automation of labor-consuming operations in foundries. Specific instances of mechanization and automation of foundry processes are described. The material presented in this book is divided into six parts, dealing with the following subjects: molding materials, mold and coremaking, casting, treatment of molds, finishing of castings, and special casting methods. Each part consists of a number of technical papers presented by several authors. The application of automation ranges from the preparation of molds and cores to the mechanization and streamlining of the use of shell molding. There are numerous diagrams showing automated and mechanized installations in foundries. Most of the material is based on experience and work done at the Kharkov Alusht Plant. Some of the methods described appear to be recent developments. The technical papers published in this book were originally presented at the 10th All-Union conference of the Soviet machine industry in October 1957. No personalities are mentioned.

Krivitskiy, L. N. Production of Sand Molds by Hydraulic Pressing	78
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Pysrenskiy, V. S. Overall Automation of Mixing Systems in Foundry Shops	40
Zargov, I. B.; A. N. Gvordovich, and I. S. Gendalovich. Mechanization of Casting and Extrusion Operations to Remove Cores From Planks in Pneumatic Ramming	97
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ZELICHENKO, G. S.

PHASE I BOOK EXPLOITATION

SOV/5648

Sokolov, Aleksey Nikolayevich, ed.

Mekhanizatsiya i peredovaya tekhnologiya liteynogo proizvodstva  
(Mechanization and Advanced Processing in Foundries) [Leningrad]  
Lenizdat, 1961. 236 p. 2,000 copies printed.

Ed.: Ye. V. Yemel'yanova; Tech. Ed.: I. M. Tikhonova.

PURPOSE: This collection of articles is intended for technical personnel, foremen, and skilled workmen of foundries. It may also be of use to staff members engaged in the mechanization of production operations.

COVERAGE: The collection contains articles discussing the experience of a number of Leningrad plants and engineering and design organizations in mechanizing foundry processes and in applying advanced techniques to the manufacture of castings. No personalities are mentioned. Some

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Mechanization and Advanced (Cont. )

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articles are accompanied by references. References are all Soviet.

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Mechanization and Advanced (Cont.)

SOV/5848

Kononov, M. N. Patterns With an Epoxy-Resin Base

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AVAILABLE: Library of Congress (TS233. S55)

Card 5/5

VK/wrc/bc  
11-15-61

S/118/62/000/002/001/005  
D221/D301

AUTHOR: Zelichenko, G. S., Engineer

TITLE: Automated lines for moulding and knocking out in the  
boundry shops

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 2,  
1962, 1 - 7

TEXT: The Leningrad branch of "Soyuzprommekhanizatsiya" has developed automated lines for moulding and knocking out for the factories im. Lepse. The four-station automatic 94265 with shakers and pre-pressing of CKE-6 (SKB-6) designs made by "Krasnaya Presnya", as well as single station semiautomatic 91271, with shaker and pre-pressing of NIILITMASH were used. The output of two 94265 units is 180 moulds per hour, and both halves are made in succession. This is an important advantage in the case of setting for other castings or break-down. The automatic line consists of a conveyor, knock-out installation, vibratory conveyor for empty mould boxes, and two moulders. The latter is made up of a transfer arrangement of boxes

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D221/D301

Automated lines for moulding ...

from the vibratory conveyor, an automatic device for loading ready half-moulds for their assembly, vibratory conveyor, assembly of moulds and their transfer on the foundry conveyor, and finally a device for placing and removal of weights. The foundry conveyor was designed by the trust of "Soyuzprommekhanizatsiya", and is of a horizontal construction with trolleys and a flat plate. The line is illustrated and described in detail. The cycle of forming is divided into four operations, and the automatic machine produces both halves of the mould during 20 seconds. After turn-over and turning by 90°, the moulds are pushed by a hydro-pneumatic device into a slate conveyor, where they are subject of visual inspection designs the last stage (assembly) will be separated. The unit for the assembly operation takes up the upper mould, turns it over and places it over the lower part with centering pins to ensure a proper positioning. After a certain pause, the trolley is coupled to a bar and the mould is placed. The weight manipulator is formed by two trolleys actuated by pneumatic cylinders. The weights travel on a gravity roller-conveyor which is mounted between the lines of foundry conveyor. The width manipulator picks up the charge from the roller

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Automated lines for moulding ...

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D221/D301

-conveyor and back. The control of the unit is designed by ENIMS with the use of limit switches. The work efficiency is improved 2.4 times with the introduction of this automated line. The semi-automatic line with 91271 machines has an output of 360 moulds/hour with four units. The forms which are filled from ladles pass near the weight manipulator, where weights are automatically placed over them. They continue their travel under a cooling tunnel and enter the knock out installation, which operates with a 10 sec. cycle. The empty boxes are pushed onto a lifting table, and from there on to the distributing vibratory conveyor. A special arrangement ensures the separation of halves of the moulding boxes. The actual operation of moulding takes only 30 seconds, leaving for the operator a free time interval of 10 secs. The assembly of moulds is mechanized and controlled by pressing a push button. There are 9 figures.

Card 3/3

ZELICENKO, G.S. [Zelichenko, G.S.]

Automation of the line of molding and stamping in foundries.  
Analele metalurgie 16 no.3:146-158 J1-3 '62.

ZELICHENKO, L. (Kirgizskaya SSR)

Przhevalsk is the address of an advanced collective. Pozh.  
delo 9 no.6:29-32 Je '63. (MIRA 16:8)

ZELICHENKO, L.B.

VIROVETS, A.M., professor; BARVENKO, Ye.I., inzhener; BENDOVSKIY, M.K., inzhener; GORELKIN, L.F., inzhener; DRIATSKAYA, E.M., inzhener; ZELICHENKO, L.B., inzhener; IVANOV, V.F., inzhener; KAMENSKIY, I.G., inzhener; KOSINOV, M.Ya., inzhener; LARIN, D.A., inzhener; MAUERER, V. G. inzhener; NEMTSEV, S.V., inzhener; SOLOV'YEVA, M.V., inzhener; PISHKIN, V.N.; RYTOV, A.V., redaktor; SHLENSKIY, I.A., tekhnicheskiiy redaktor.

[Tables of the rectangular coordinates of map frame angles and of map frame and area dimensions of trapezoids of topographic surveys, using the scale 1:5000; for latitudes  $36^{\circ}$ - $68^{\circ}$ . Krasovskii's ellipsoid]  
 Tablitsy priamougol'nykh koordinat uglov ramok, razmerov ramok i ploshchadei; trapetsii topograficheskikh s'emok masshtaba 1:5000. Dlia shirot ot  $36^{\circ}$ - $68^{\circ}$ . Ellipsoid Krasovskogo. Moskva, Izd-vo geodezicheskoi lit-ry, 1953. 909 p.  
 (Surveying--Tables, etc.) (Coordinates) (Trigonometry--Tables, etc.)

MEYEROVICH, L.A.; ZELICHENKO, L.G.; ALEKSANDROVA, A.A., red.; URAZOVA,  
A.N., tekhn. red.

[Pulse techniques] Impul'snaya tekhnika. Moskva, Izd-vo  
"Sovetskoye radio," 1953. 829 p. (MIRA 16:7)  
(Pulse techniques (Electronics))

MEYEROVICH, L.A., kand. tekhn. nauk; ZELICHENKO, L.G., kand. tekhn. nauk.

Calculating the turnover rate of multivibrators. Radiotekhnika 8  
no.1:42-54 Ja-F '53. (MIRA 11:6)  
(Pulse techniques (Electronics))

MEYEROVICH, L.A.; ZELICHENKO, L.G.; ALEKSANDROVA, A.A., redaktor; KORUZEV,  
N.N., tekhnicheskii redaktor

[Pulse techniques] Impul'snaia tekhnika. Izd. 2-a. Moskva, Izd-vo  
"Sovetskoe radio," 1954. 759 p. (MLRA 8:4)  
(Pulse techniques (Electronics))

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trodes. Orig. art. has: 10 formulas, 3 figures.

APPROVED FOR RELEASE: 03/15/2001

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BROVMAN, M.Ya.; GERTSEV, A.I.; ZELICHENOK, B.Yu.; KRIVONOSOV, Yu.I.;  
RIMEN, V.Kh.; SOKOL, V.N.; MEL'NIKOV, A.F.

Investigating the electric drive parameters of the 2800 mill in  
the Orsk-Khalilovo Metallurgical Combine. Stal' 22 no.1:45-48  
Ja '62. (MIRA 14:12)

1. Yuzhnoural'skiy mashinostroitel'nyy zavod i Orsko-Khalilovskiy  
metallurgicheskii kombinat.  
(Ural Mountains--Rolling mills--Electric driving)

KOVYNEV, M.V., inzh.; ZELICHENOK, B.Yu., inzh.; GERTSEV, A.I., inzh.;  
VOZNESENSKIY, V.A., inzh.

Optimum amount of slab reduction in stands with 2800 vertical roll  
mills. Stal' 23 no.6:529-530 Je '63. (MIRA 16:10)

1. Orsko-Khalilovskiy metallurgicheskiy kombinat.

VARNAVSKIY, I.N.; ZELICHENOK, B.Yu.; KARGIN, V.A.; ZHIGULIN, V.I., inzh.;  
BEDA, N.I., inzh.; RYZHKOV, P.Ya., inzh.; GAVRILOV, A.M., inzh.

New developments in research. Stal' 23 no.10:950 0 '63.  
(MIRA 16:11)

s/133/62/000/001/005/010  
A054/A127

AUTHORS: Brovman, M. Ya., Gertsev, A. I., Zelichenok, B. Yu., Krivonosov, Yu. I., Rimen, V. Kh., Sokol, V. N., Mel'nikov, A. F.

TITLE: Investigating the power parameters of the 2800 mill of the Orsko-Khalilovskiy metallurgicheskiy kombinat (Orsk-Khalilovo Metallurgical Combine)

PERIODICAL: Stal', no. 1, 1962, 45 - 48

TEXT: To increase the output of the 2800 mm mill, tests were carried out at the Orsko-Khalilovskiy metallurgicheskiy kombinat (Orsk-Khalilovo Metallurgical Combine), in cooperation with the Yuzhnoural'skiy mashinostroitel'nyy zavod (Southern Ural Mechanical Engineering Plant). These tests were aimed at investigating the motor capacity and the metal pressure on the rolls. The mill consisted of two stands: a 2-high roughing stand (with rolls of 60XH (60KhN) and 60 XГ (60KhG) steel, barrel diameter: 1,150 mm, roll-neck diameter: 690 mm), and a reversing 4-high finishing stand (work-roll diameter: 800 mm, diameter of the support rolls: 1,400 mm). Carbon and low-alloy steel sheets (Ст.3кп/St.3kp, 14ГН/14GN, 15XCHД/15KhSD, Ст.0/St.0, Ст.5/St.5), 8 - 50 mm thick, 1,500 -

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Investigating the power parameters of...

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2,500 mm wide and 18 m in length are rolled on the stands. The operation of the 2-high stand consists of 4 longitudinal passes, tilting through 90° and 6 - 8 passes for lateral deformation, with 2 - 4 subsequent longitudinal passes. In order to ensure accurate dimensions, a special gauge is used in which several rods of the same height are mounted instead of one and in which the wire pickups are connected in series, thus not depending on the load distribution between the rods. The power parameters were determined by rolling 41 slabs (2.7 - 4.7 tons) on the 2-high and 36 strips on the 4-high stand. The rolling conditions on the 2-high stand are given in a table. The pressure values obtained for the 2-high stand are 1,040 tons during the first longitudinal rolling, 1,940 tons during the lateral rolling and 2,360 tons during the second longitudinal rolling. The metal pressure on the 4-high stand is 2,090 tons, usually the stand works with 1,300 - 1,700 tons pressure and a reduction of 20 - 25%. The pressures actually applied during rolling remain below the permissible level. The results were also checked by comparing them with experimental values for the motor torques, calculated for various metal pressures. The comparison yielded practically identical values. The pressure gaugings were carried out at roll-rotation rates of 30 - 45/min on the 2-high stand and at 60 - 80 rpm on the 4-high stand. By increasing the roll

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Investigating the power parameters of...

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speed the metal pressure could be raised by 8 - 10% on the 2-high stand and by 5 - 7% on the 4-high stand. The final conclusions drawn from these tests were that the 2-high and the 4-high stands of the 2,800 mm strip mill are not fully loaded when rolling St.3 and St.3kp sheets, and, taking into account the motor capacity, the reductions could be increased by 30 - 40%, thus raising the stand output by 10 - 15%. However, actually it is only possible to reduce the number of passes from 8 to 6 when rolling laterally. The best way to improve the operation of the mill is by modifying the reductions on both stands in such a way, that the reduction in thickness on the 2-high stand be increased thus producing a thinner strip for the 4-high stand. There are 3 figures and 9 references: 1 non-Soviet-bloc and 8 Soviet-bloc. The reference to the English-language publication reads as follows: A. Nadai, M. I. Manjone. Journal of Applied Mechanics, 1941, no. 6.



Card 3/3

VARNAVSKIY, I.N.; ZELICHENOK, B.Yu.

New developments in research. Stal' 24 no.9:834-835 5 '64.  
(MIRA 17:10)

KOVYNEV, M.V., inzh.; ZELICHENOK, B.Yu., inzh.; GERTSEV, A.I., inzh.;  
FIDEL', E.L., inzh.; KATRICHENKO, K.P., inzh.

Effect of certain technological factors of rolling on a 2,800  
two-high mill on the shape of the piece. Stal' 24 no.11:1009-  
1013 N '64. (MIRA 18:1)

36136-66 EWT(a)/EWT(m)/EWP(y)/T/EWP(t)/ETI/EWP(k)/EWP(h)/EWP(l) IJP(c)

ACC NR: AT6016762 JD/HM/HW(N) JT SOURCE CODE: UR/2776/65/000/042/0059/0063

AUTHOR: Golovanenko, S. A.; Ustimenko, V. A.; Kovynev, M. V.; Zelichenok, B. Yu.;  
Mul'ko, G. N.

ORG: none

TITLE: Rolling of steel-monel bimetal plate in a "2800" mill

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.  
Sbornik trudov, no. 42, 1965. Proizvodstvo bimetallov (Production of bimetal), 59-63

METAL ROLLING, CARBON STEEL,  
TOPIC TAGS: killed carbon steel, monel alloy, plate mill, bimetal, metal cladding,  
chemical plant equipment / VSt. 3sp. carbon steel, NMZhMts-28-2.5-1.5 monel  
alloy, "2800" plate mill

ABSTRACT: To verify the possibility of the mass production of bimetal plate (sheet  
of steel clad with sheet of monel) as well as to construct from this plate experi-  
mental models of petroleum-refinery apparatus, a pilot-industrial batch (4 tons) of  
such plate was rolled in a "2800" plate mill of the Orsk-Khalilovka Metallurgical  
Combine, for the first time in the USSR. The base layer used was VSt. 3sp. killed  
carbon steel (0.17% C, 0.37% Mn, 0.22% Si, 0.05% Cr, 0.27% Ni, 0.08% Cu, 0.026% S,  
0.012% P), and the cladding layer was NMZhMts-28-2.5-1.5 monel alloy with a chemical  
composition meeting the All-Union State Standard GOST 492-52. The sheets were welded

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ACC NR: AT6016762

together into laminated strips measuring 191x1000x1810 mm and, prior to their rolling, heated in a continuous furnace for 3 hr. After this, they were rolled under conditions similar to those of the rolling of ordinary steels, in breakdown and finishing stands with rolls of 1100-mm diameter, with final rolling to a thickness of 20 mm in a four-high finishing stand with rolls of 800/1300 mm diameter. During the rolling the current intensity in the armatures of the motors of the two-high breakdown stand was oscillographically recorded and the findings were used to calculate the torque and the pressure exerted by the metal on the rolls during the individual operations. These calculations showed that the maximum rolling stress during the rolling of steel-monel bimetal is 1930 tons, which is substantially below the maximum permissible stress for the rolls (2300 tons). Tests established that the properties of such plate definitely meet the requirements posed to this material by the petrochemical machine building industry and the cost of such plate is, even under conditions of experiment, 30-40% lower than that of solid monel plate and, moreover this reduces the consumption of monel to one-half or one-third as compared with solid monel plate. Thus, it is feasible and expedient to organize the rolling of steel-monel bimetal plate in ferrous metallurgy plants. Orig. art. has: 1 figure, 2 tables, 3 formulas.

SUB CODE: 13, 11 / SUBM DATE: none

Joining of Dissimilar Metals 18

Card 2/2 *ell*

BROVMAN, M.Ya.; GERTSEV, A.I.; ZELICHENOK, B.Yu.; KOVYNEV, M.V.; RIMEN,  
V.Kh.; FIDEL', E.L.

Power parameters of rolling in rolls with a special shape of  
the surface. Stal' 25 no.3:251-253 Mr '65. (MIRA 18:4)

ZELICHENOK, B.Yu., inzh.; BABITSKIY, M.S., inzh.; VARNAVSKIY, I.N., inzh.;  
KOVYNEV, M.V., inzh.; MEDVEDEV, V.V., inzh.; ZASLAVSKIY, A.Ya.,  
inzh.

Influence of cross rolling on the quality of 16GN and 17GS steel  
sheets. Stal' 25 no.8:825-828 S '65. (MIRA 18:9)

1. Orsko-Khalilovskiy metallurgicheskiy kombinat i Chelyabinskiy  
nauchno-issledovatel'skiy institut metallurgii.